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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,635	03/19/2001	Martijn Henri Richard Lankhorst	NL 000142	9985

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EXAMINER

COLON, GERMAN

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 10/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

09/811,635

Examiner

German Colón

Applicant(s)

LANKHORST ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### *Specification*

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The examiner notes that the headings for the different sections in the application are missing. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,2,5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yorifuji et al. (US 4,972,118).

Regarding claim 1, Yorifuji discloses a low-pressure mercury-vapor lamp comprising a discharge vessel 11,

which discharge vessel encloses a discharge space 17 provided with a filling of mercury and an inert gas in a gas-tight manner,

which discharge vessel contains an amalgam 27 which communicates with the discharge space 17,

and the low-pressure mercury-vapor discharge lamp comprises discharge means 25 for maintaining an electric discharge in the discharge space 17, characterized in that the amalgam 27 comprises a bismuth-lead compound having a lead content (Pb) in the range between  $35 \leq \text{Pb} \leq 55$  at. % (see Col. 2, line 28), a bismuth content (Bi) in the range between  $45 \leq \text{Bi} \leq 65$  at. % (see Col. 2, line 28), and a mercury content (Hg) of 1% (see Col. 2, line 29).

Referring to claim 2, Yorifuji discloses the lead content laying in the range between  $40 \leq \text{Pb} \leq 50$  at. % (see Col. 2, line 28) and the bismuth content laying in the range between  $50 \leq \text{Bi} \leq 60$  at. % (see Col. 2, line 28).

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Regarding claim 5, Yorifuji discloses the mercury content being 0.5% (see Col. 3, line 17).

Referring to claim 6, Yorifuji discloses an amalgam 27 for use in a low-pressure mercury-vapor discharge lamp.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forsdyke et al. (US 5,952,780) in view of Ikeda et al. (US 5,204,584).

Regarding claim 1, Forsdyke discloses an amalgam for a low-pressure mercury-vapor discharge lamp comprising a compound having a lead content (Pb) in the range between  $24 \leq \text{Pb} \leq 48$  at. %, and a mercury content (Hg) in the range between  $0.1 \leq \text{Hg} \leq 0.5$  at. %. Forsdyke fails to disclose a bismuth content (Bi) in the range between  $40 \leq \text{Bi} \leq 65$  at. %. Forsdyke discloses a tin content (Sn) in the range between  $45 \leq \text{Sn} \leq 73$  at. %.

However, in the same field of endeavor, Ikeda discloses amalgams comprising Bi-Pb-Hg and Sn-Pb-Hg as art recognized equivalent materials, both having the same properties (see Table II, amalgams k and s, and amalgams n and q). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Bi-Pb-Hg discloses by Ikeda,

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instead of Sn-Pb-Hg, as disclosed by Forsdyke, because the two materials are art recognized equivalents.

Forsdyke teaches the amalgam to be used in a low-pressure mercury-vapor lamp, yet, it is silent regarding the structure of the lamp. However, Ikeda discloses a low-pressure mercury-vapor lamp comprising a discharge vessel 43, which vessel encloses a discharge space provided with a filling of mercury and an inert gas in a gas tight manner, which discharge vessel contains an amalgam 31 which communicates with the discharge space, and the low-pressure mercury-vapor discharge lamp comprises discharge means 19,21. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the low-pressure mercury-vapor discharge lamp disclosed by Ikeda, since Forsdyke teaches the amalgam to be used in a low-pressure mercury-vapor discharge lamp. Further, it is known in the art that low-pressure mercury-vapor discharge lamps comprise a discharge vessel, discharge space provided with mercury and an inert gas, and discharge means.

Referring to claim 3, Forsdyke discloses the amalgam comprising gold, the gold content (Au) lying in the range between  $1 \leq \text{Au} \leq 15$  at. %.

Regarding claim 4, Forsdyke discloses, the gold content (Au) lying in the range between  $8 \leq \text{Au} \leq 12$  at. %.

### ***Prior Art of Record***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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Lighthart et al., in U.S. Patent No. 5,907,216, discloses a low-pressure mercury vapor discharge lamp and an amalgam comprising Bi, Pb, and Hg.

Lankhorst et al., in U.S. Patent No. 6,404,122, discloses a low-pressure mercury vapor discharge lamp and an amalgam comprising Bi, Pb, Sn and Hg.

Williams, in GB Patent No. 1,176,955, discloses a low-pressure mercury vapor lamp where an amalgam with gold is introduced.

### *Contact Information*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 703-305-5987. The examiner can normally be reached on Monday thru Friday, from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
gc

October 4, 2002

  
NIMESHKUMAR D. PATEL  
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